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Metaphoric interpretation

Comparison or categorisation?

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Abstract

This paper compares two different theoretical approaches which have been developed to account for metaphoric interpretation: the comparison approach and the categorisation approach. Following a brief review on the history of the two theoretical approaches, the paper points out in part 5 that these two approaches are not fundamentally incompatible. It is further argued in parts 6 and 7 that while the comparison approach can be improved to provide metaphoric interpretations beyond a focus on words and phrases, similar improvement can hardly be made for the categorisation approach, whether by updating the approach itself or by merging it with non-categorisational processes. As a result, the metaphoric cases accountable by the categorisation approach can only be a subset of the cases accountable by the comparison approach.

Keywords

metaphor – comparison approach – categorization approach

1 Introduction

Metaphor plays a prominent role in both literary works and daily uses. Our ability to produce expressive and skilful metaphors nevertheless mismatches

with our scarce understanding of it. A variety of descriptions have been developed by linguists, philosophers, and psychologists to capture the essence of metaphor. Among them, metaphor has been seen as analogy (Bowdle & Gentner, 2005), attribute transference at or beyond a lexical level (Ortony, 1979a; Ortony, 1979b), a linguistic hybrid leading us to “view one situation as if it were the other” (White, 1996: 117), an implicit class-inclusion assertion (Glucksberg & Keysar, 1990), or an effect of on-line lexical adjustment along the continuum of hyperbole and other loose uses (Sperber & Wilson, 2008).

Behind the non-uniform conceptions of metaphor are non-unified accounts of metaphoric interpretation. These accounts can be roughly divided into two broad sides. One of them takes a categorisation approach, and argues that metaphor is interpreted by constructing an abstract category or concept from the vehicle to include the topic. The other side follows a comparison tradition, explaining metaphoric interpretation as attributional or relational mappings between two parallel concepts, phrases, sentences or situations. Debates between the two approaches constitute the focus of this paper.

We will evaluate models and theories that have emerged from both the categorisation approach and the comparison approach. Three main points will be argued for. (1) The process proposed by the categorisation approach is compatible with the process realising a specific type of comparison. (2) The categorisation approach will be seriously challenged if it is to be modified to account for a larger range of metaphoric cases. (3) Following (1) and (2), the metaphoric cases accountable by the categorisation approach is a subset of the cases accountable by the comparison approach. It will be argued that the explanatory power of the categorisation approach is limited by its proposal of metaphoric categories or concepts. The limitations cannot be easily overcome by updating the categorisation approach itself, or by combining with it processes from other approaches. As a result, the comparison approach shows a better explanatory power than the categorisation approach.

2 Before categorisation

Traditionally, metaphoric interpretation is seen as a comparison process. A metaphoric expression such as “his pen is a knife” is thought to be interpreted in a way similar to, but not necessarily the same as (Barnden, 2012; Ortony, 1979c), its corresponding simile “his pen is like a knife”. The surface form of the latter overtly indicates a comparison nature.

One classic model for the interpretation of comparison statements is the feature-matching model, originally developed by Tversky. It uses feature sets

to represent the objects in comparison. Similarity between two objects is calculated by linearly combining the measures of their common features, and deleting the measures of their distinctive features. This process is referred to as feature-matching, represented in a theorem form as (1).

$$(1) \quad S(x, y) = \theta f(X \cap Y) - \alpha f(X - Y) - \beta f(Y - X) \text{ (for some } \theta, \alpha, \beta \geq 0)$$

For a statement “*x* is like *y*”, $S(x, y)$ measures how similar *x* is to *y*. *x* is referred to as the subject and *y* as the referent of the comparison. $f(X \cap Y)$ is a measure of the common features between them; while $f(X - Y)$ and $f(Y - X)$ are the measures of the distinctive features of the subject and the referent. θ, α, β are parameters indicating the weightings put upon the common and distinctive features. (Tversky, 1977: 332).

The comparison is symmetrical when $S(x, y) = S(y, x)$, which is true if $\alpha = \beta$, or $f(X) = f(Y)$. However, when assessing how similar *x* is to *y*, one tends to focus more on the subject of the comparison than on the referent, which leads to a heavier weighting for the features of the subject than the features of the referent, represented as $\alpha > \beta$. Hence the comparison becomes asymmetrical. The direction of the asymmetry depends on the relative salience of *x* and *y*. $S(x, y) > S(y, x)$ is true if $\alpha > \beta$, and $f(Y) > f(X)$, indicating that if a less salient object is compared to a more salient, prototypical object, the overall similarity will be judged higher than the other way round. This information asymmetry is supposed to explain why comparison statements are not always reversible or transitive (Tversky, 1977).

Tversky's model is further modified by Ortony in order to draw a clearer distinction between metaphoric and literal comparisons. Differing from Tversky, Ortony's model assumes that the measure of a feature depends on a specific object. While the measures of the distinctive features depend on the object to which these features belong, the measure of the common features between the subject and the referent (i.e. $f(X \cap Y)$) depends on the referent, as in (2). The superscript letters indicate on which subject a certain measure depends.

$$(2) \quad S(x, y) = \theta f^Y(X \cap Y) - \alpha f^X(X - Y) - \beta f^Y(Y - X)$$

Considering the statement “*x* is like *y*”, if the common features are salient for both *x* and *y*, the two objects will be judged similar as done by Tversky's model. The condition in which the salience of common features is high for both objects is called a high-high condition. Comparisons satisfying such a high-high condition are regarded as literal comparisons. However, if the common features are

more salient for *y* than for *x*, the two objects will still be judged similar, but in a non-literal way (Ortony, 1979a). For example:

- (3) A dagger is like a knife.
- (4) His pen is like a knife.

While features such as “causing pain” and “harmful” are salient for both a dagger and a knife, they are not characteristic for a pen. Therefore, (3) is judged as a literal comparison statement, whereas (4) a metaphoric one. In other words, an imbalanced salience of matching features for the subject and the referent is the condition for a comparison to be metaphoric (Ortony, 1979a).

Ortony’s improved feature-matching model has several advantages over the original version. Since it distinguishes non-literal comparison from literal comparison, it accounts for characteristics of metaphoric comparisons that are not shared with literal comparisons, such as the irreversibility of metaphoric expressions (Bowdle & Gentner, 2005; Glucksberg & Keysar, 1990; Ortony, 1979a). The difference can be shown by swopping positions of the subject and the referent in (3) and (4):

- (5) A knife is like a dagger.
- (6) * The knife is like his pen.

Noticeably, the reversed literal comparison in (5) is no less interpretable than (3), with the meaning being almost unchanged before and after reversal; while the reversed metaphoric comparison in (6) is not as readily understandable as (4). The reason is that the salience of the features such as “harmful” is different for the subject and the referent of the metaphoric comparison, but similar for those of the literal comparison. The metaphoric comparison is thus directional whereas the literal comparison is not.

Another point worth noting is that contrary to a common belief, Ortony’s account can explain feature introduction from the referent to the subject. According to Ortony, the feature-matching process is in fact a process of finding salient features of the referent that are applicable to the subject (Ortony, 1979c: 349). The condition for such a process to fail is not that the salient features of the referent cannot be found in the subject, but that these features are found to be inapplicable to the subject (Ortony, 1979a). If the highly salient features of the referent are also part of the subject, these features will be matched. If the features are not part of the subject, hearers will make attempts to trans-

fer them from the referent to the subject as long as no conceptual conflict is caused (Ortony, 1979a). For example, the feature of being childish is not normally part of the concept of an old man; however, confronting the sentence “my grandpa is like a child”, the hearer may attempt to transfer this feature from child to the speaker’s grandpa, given that it is characteristic to the referent child.

3 Establishment of the categorisation approach

Although the improved feature-matching model has an arguably better explanatory power than before, some of Ortony’s arguments and claims are questioned by other theorists. A question, pointed out by Glucksberg, is not at all touched by the feature-matching model. It is noticed that metaphoric comparisons can be paraphrased as “class-inclusion” statements; but literal comparisons cannot (Glucksberg & Keysar, 1990):

- (7) a. His pen is like a knife.
b. His pen is a knife.
- (8) a. A dagger is like a knife.
b. *A dagger is a knife.

Although Ortony has attempted to draw differences between metaphoric and literal comparisons, his model cannot clarify why metaphoric comparisons appear to have an affinity to class-inclusion forms. It certainly says nothing about the fact that the common metaphoric form “X is a Y” is a class-inclusion form instead of a comparison form. This, in turn, lays basis for a different, categorisation-oriented approach.

Glucksberg has based his interactive property attribution model upon two hypotheses (Glucksberg, 2001). Firstly, he claims that the metaphoric vehicle has a dual-reference function: it can refer to a superordinate category which the denotation of the vehicle term exemplifies, or to the literal meaning that the vehicle term is encoded with. When used in metaphor, the vehicle refers to the superordinate category, and in simile it refers to its literal meaning (Glucksberg, 2001, 2008; Glucksberg & Haught, 2006; Glucksberg & Keysar, 1990). For the metaphoric statement “the room is an oven”, the vehicle refers to a superordinate category OVEN which oven exemplifies.

The second hypothesis concerns different roles the topic and the vehicle play (Glucksberg, 2001). The metaphoric vehicle in Glucksberg’s model is supposed

to provide a set of features. In the oven example, the vehicle oven provides features such as hot, with small internal space, used to cook, etc. The features are then filtered by dimensions of attributions that the topic specifies. In this case the dimensions will be temperature, size, etc. The result of this topic-vehicle interaction is that only features along these dimensions are left to form the superordinate category (Glucksberg, 2001). Therefore, features such as hot, with small internal space are selected and become part of the superordinate category OVEN. Following the two hypotheses, the statement “the room is an oven” is understood as asserting the room belongs to an abstract category OVEN by virtue of being hot, narrow and so on.

Apart from Glucksberg’s interactive property attribution model, the standard Relevance Theory account also treats metaphor, as well as hyperbole and a series of other “loose uses”, with a categorisation-oriented interpretive procedure. It is assumed that when a hearer hears the statement “the room is an oven”, the concept OVEN is obtained through decoding and a range of related properties (e.g. used to cook, can be very hot, enclosed, etc.) is activated. The concept is then narrowed so that items such as broken ovens, switched-off ovens are excluded from the denotation of “oven”. It is also broadened so that rooms sharing properties (e.g. hot, enclosed, etc.) with a specific type of oven are included into the denotation of “oven”. The adjustment continues until the interpretation of the expression satisfies the hearer’s relevance expectation drawn from the context, which in this case can be somebody being unwilling to enter the room. As a result, the original statement is understood as the room is an OVEN*, in which OVEN* is an ad hoc concept both narrower and broader than the encoded concept OVEN (Sperber & Wilson, 2008; Sperber & Wilson, 2012; Wilson & Carston, 2007).

One advantage of such an account is its parsimony, as the interpretive process demonstrated above can be shared by metaphor with hyperbole, approximation and lexical narrowing. The main difference is that concept narrowing is typically required in addition to broadening in metaphoric interpretation but not in the interpretation of other “loose uses” (Sperber & Wilson, 2008).

In general, the categorisation approach shares several explanatory advantages with the modified feature-matching model. Since it claims metaphor is interpreted through a categorisation process, it distinguishes metaphor from all forms of comparison, including literal comparison. Such a distinctive interpretive mode explains the special characteristics of metaphors not found in literal comparisons (Glucksberg & Keysar, 1990). For example, literal comparisons are reversible but metaphors are not. This is because metaphors are interpreted by including one item into a category; the process itself is irreversible as it indicates a specific direction.

Additionally, viewing metaphoric interpretation as a categorisational process provides a natural explanation for the common metaphoric form “X is a Y”. The idea of metaphor being essentially categorisational is supported by examples showing that some metaphoric expressions do not have corresponding comparison forms:

(9) Brown is the new black. (Carston & Wearing, 2011: 286)

(10) WorldCom will be the next Enron. (Glucksberg & Haught, 2006: 365)

Comparison forms such as “brown is *like* the new black”, “WorldCom will be *like* the next Enron” can hardly be accepted, as objects can be asserted to be like some other objects, but not “the new” or “the next” of them (Glucksberg & Haught, 2006; Haught, 2013). However, as will later be argued, it is doubtful whether these statements are essentially metaphoric.

4 Problems that remain

The establishment of the categorisation approach, however, does not eliminate all the problems involved in metaphor interpretation. Above all, the issue of emergent properties has not yet received an adequate explanation. In addition, some complex metaphors are beyond the explanatory scope of both Ortony’s model and the categorisational accounts.

4.1 *Emergent properties*

In many metaphoric expressions, features supposed to be directly transferred from the referents to the subjects are themselves subtly converted. The resulting new features are called “emergent properties”.

(11) Metropolises are like sponges.

(12) His pen is like a knife.

In the case of (11), both metropolises and sponges share the feature of absorbing things quickly; however, the things they absorb are different: Sponges take in water, whereas metropolises attract people and businesses. Similarly, the feature of being harmful does not mean exactly the same for his pen and knife. As a feature of a knife, being harmful represents an ability to cause physical injury; but when applied to his pen, it refers more to the damaging impacts his pen may have on people’s emotion, reputation, or other socio-psychological aspects.

To account for the fact that some matching features are not directly shared by the objects under comparison, Ortony suggests that a recursive process is needed to build up higher order matches between features. In this process, features themselves become the objects under comparison, and the similarity of features is measured by matching the features of features. The similarity between the feature of being physically harmful and that of being psychologically harmful in (12) hence become explainable (Ortony, 1979a). However, while such a recursive matching is supposed to explain the similarity between ways of being harmful in (12), it would be wrong to draw similarity between features of objects that are not perceived as similar, even if these features themselves may share something in common. For example, a coin is not perceived as similar to a tin in most cases. When these two objects are compared, similarity should not be drawn between their materials, even though their materials do share the feature of being metal. This shows that there needs to be some constraints on when two features should be regarded as similar and when not (Ortony, 1979b). Ortony proposed a rough constraint by suggesting that recursive matching may only happen below a certain level of specificity (Ortony, 1979a). In other words, this is when the two objects meet at a category no more abstract than a certain level. While his pen and a knife may satisfy this requirement by meeting at a rather specific category of being harmful, the category of being made of metal where a coin and a tin meet may be too general to trigger recursive matching. Such a proposal aims to explain why a recursive matching can be launched for some features but not the others; but it does not answer what triggers such a recursive matching to happen in the first place.

The attempt made by the categorisation approach is not much more successful. Two possible inferential routes are proposed by the standard Relevance Theory account. To explain the statement “his pen is a knife”, the first route suggests that there is a superordinate sense (e.g. HARMFUL*) along with the basic physical sense HARMFUL in our mental lexicon. The former is broader than the latter in that it denotes not only entities denoted by the latter (e.g. knife), but also entities with a psychological harmful feature (e.g. his pen). The construction of ad hoc concept can thus make use of the superordinate sense. The second route suggests that there is a separate psychological sense HARMFUL** together with the physical sense HARMFUL in our mental lexicon. During the interpretation of the example, a superordinate ad hoc concept will be constructed on the basis of the two senses (Wilson & Carston, 2006). Following either route, the sense that denotes entities with the psychological feature will be available for ad hoc concept construction, but only on condition that such a sense already exists somewhere in the mental lexicon (Wearing, 2014). If such senses are not yet lexicalised, as is the case in interpreting novel metaphors, nei-

ther of these referential routes could be followed. Instead, a recursive process similar to what is proposed by Ortony might be required for the construction of the ad hoc concept. For example, in interpreting “his pen is a knife”, one needs to construct an ad hoc concept KNIFE*. The construction of this ad hoc concept is not straight-forward, as the feature HARMFUL acquired from a knife is not directly applicable to his pen. To fill up this gap, one would have to firstly construct an intermediate ad hoc concept HARMFUL*, which is applicable to both physically harmful entities such as a knife and psychologically harmful entities such as his pen. Only on the basis of this intermediate ad hoc concept HARMFUL* could one come to the construction of the final ad hoc concept KNIFE*. However, here appears a problem which is much the same as that of Ortony’s proposal: there lacks a trigger for the construction of the intermediate ad hoc concept HARMFUL*. Since what is directly relevant to the interpretation of the statement is the intermediate ad hoc concept itself (i.e. HARMFUL*) instead of the features involved in constructing the intermediate ad hoc concept (i.e. being physically or psychologically harmful), there is no reason for these features to be activated at first (Wearing, 2014).

4.2 *Problems of interpretations based on words or phrases*

Another group of problems are related to White’s criticisms towards interpretations based on “metaphoric senses”. According to White, it is misleading to seek the “metaphoric meaning” of a word or phrase, because the nature of metaphor does not reside at the lexical or phrasal level—it goes well beyond them (White, 1996: 169). His denial of the existence of metaphoric senses conflicts with the view of categorisational accounts, which make use of abstract metaphoric categories or concepts in their proposed mechanisms for metaphor interpretation.

What is noteworthy here is that Ortony does notice that metaphoric interpretation must go beyond a focus on words and phrases. In his definition, metaphor is not a semantic anomaly in which a word or a phrase is non-literally applied to the metaphoric subject; rather, it should be seen as a contextual anomaly in which the entire expression does not fit the context. The expression can be a unit of text larger than a word or a phrase (Ortony, 1979b: 8). In other words, the phenomenon of metaphor is not limited to special uses of words and phrases; it can be special uses of sentences or even paragraphs.

However, Ortony’s feature-matching model does not readily map to his definition of metaphor. The feature-matching model is initially designed to make comparisons between objects denoted by words. It would have to undergo modification to be applied to larger and more complex entities. The modification itself would have to answer questions such as how to identify the compared entities in metaphoric interpretation if the entities are not objects

denoted by words or phrases, how to represent the structures of features of such entities, and so on. Part 6 will show that such a modification is possible for the feature-matching model. For the sake of the discussion for now, both Ortony's model and categorisational accounts are assumed to operate as their standard paradigms indicate (i.e. with a focus on words or phrases). It will be shown that under such condition, none of the accounts can explain a full range of metaphors.

4.2.1 "Whole sentence" metaphor

The first problem is that not all metaphoric statements take the "X is a Y" form. Metaphors can be far more complex and creative in terms not only of the meanings they convey, but also of the forms they are built in. The diversity of metaphoric forms is especially thorny for the categorisation approach, as the class-inclusion form of metaphor has been an important basis of its hypotheses.

However, it should be admitted that the categorisation approach is not limited to interpreting metaphors of the "X is a Y" form. For example, (19) is not a standard "X is a Y" metaphor, yet its interpretation does not conflict with the categorisation approach. The statement can be interpreted by treating the term "the oven" as the base of an abstract category, which is developed to include the contextually obtained concept of a room.

(19) After having dinner in the breezy garden, she went back to the oven.

Nevertheless, in many more cases of complex metaphor, seeking and adjusting meanings of one or two metaphoric terms is not enough. This includes what is referred to by Ortony as the "whole sentence" metaphor (Ortony, 1979b) and by White as the metaphor with "only the secondary vocabulary" (White, 1996: 79).

(20) Flowers differ in their colour and fragrance, but they all attract bees.

(21) A caged bird will forget how to fly.

Both examples can be interpreted literally without causing any disharmony. (20), for instance, may simply mean that flowers attract bees regardless of their individual differences; and (21) that a bird being caged will lose its ability to fly. Nevertheless, in certain contexts, (20) can be used to convey the idea that all metropolises attract people even though they differ from one another; and (21) may indicate that an over-disciplined child will gradually lose creativity. A unique characteristic of such expressions is that their interpretations are able

to shift completely from literal to metaphoric in accordance with the contexts. Note that even the metaphoric interpretations of these sentences are not fixed. (21) may tell the story of a child losing creativity, or an employee losing competitiveness in the job market, or even a petted hound forgetting how to hunt.

The whole sentence metaphor provides evidence that metaphor should be regarded as a situation in which the entire expression does not fit the context instead of non-literal uses of words or phrases (Ortony, 1979b). It is apparent that the interpretation of this type of metaphor cannot fit into the standard paradigms of Ortony's account and the categorisation accounts. Since it is the entire sentence instead of several words or phrases that function metaphorically, no words or phrases can be identified as the vehicle and the topic for the categorisation approach, or the subject and the referent for the feature-matching model.

4.2.2 Extended metaphor

Noticeably, the whole sentence metaphor, although brief, resembles allegory in terms of its coherence at the literal level. There has been argument that allegory may be essentially different from metaphor (Carston & Wearing, 2011). If the whole sentence metaphor were argued to be a brief version of allegory, which is probably processed differently from metaphor, the fact that examples such as (20) and (21) cannot be interpreted by the feature-matching model or the categorisation accounts might be a result of the non-metaphoric nature of these examples.

However, apart from the whole sentence metaphor, these accounts can neither provide convincing explanations for the less controversial examples of extended metaphors. An example frequently quoted is (22):

- (22) The fog comes
 on little cat feet.
 It sits looking
 over harbor and city
 on silent haunches
 and then moves on. (Carl Sandburg, *Fog*)

The interpretation provided by the Relevance Theory is at a phrasal level. An ad hoc concept ON-LITTLE-CAT-FEET* is supposed to be constructed in interpreting the way the fog moves (Sperber & Wilson, 2008). But as it is later noticed, the poem continues with the same metaphor being extended through the entire poem, as it goes on "It sits looking over ..." (Carston, 2010). If more ad hoc concepts such as SITS*, LOOKING-OVER*, etc. were to be separately

constructed, we would hardly be able to account for the interpretive unity of the poem (White, 1996: 58–62). This would be contrary to our intuition that the metaphoric use “on little cat feet” is related to the interpretation of the extended parts.

A general shortcoming of accounts with a lexical or phrasal focus is thereby shown: they cannot explain why an extended metaphor is seen as a whole, rather than many small metaphors independent from one another (White, 1996: 58–62). The shortcoming becomes more obvious when extended metaphors with specific internal structures are taken into consideration. In such cases, the constitutive sub-metaphors are in certain relation with each other.

(23) This company is a nursery: all the clients are infants crying for being catered; and all the staff are nurses desperate for silencing them.

The simple “X is a Y” metaphor “this company is a nursery” in (23) is extended into two “X is a Y” sub-metaphors; one describes the clients and the other the staff. All three of them seem to follow Ortony’s model and the categorisational accounts perfectly, especially when the sentence is simplified into (24):

(24) This company is a nursery: all the clients are infants; and all the staff are nurses.

In interpreting (24), the feature-matching model will propose three subject-referent pairs of comparison, which will also be the three topic-vehicle pairs for any categorisational process—company-nursery, clients-infants, and staff-nurses. What cannot be handled by these operations is that, although the extended part contains two independent metaphoric expressions, the two sub-metaphors are, at the same time, complementary. The referents/vehicles of the sub-metaphors (i.e. infants and nurses) form a special relation in which one side is in need and the other needed. The relation is supposed to be transferred across boundaries of the sub-sentences to the two subjects/topics (i.e. clients and staff). Without the relation being extracted and transferred, one can hardly acquire the intended meaning of the initial metaphor “this company is a nursery”, as it is in fact a unified representation of the relation its two sub-parts are in. This can be shown by deleting or substituting one of the two sub-metaphors:

(25) This company is a nursery: all the staff are nurses.

(26) This company is a nursery: all the administrators are parents; and all the staff are nurses.

While the operations with a lexical or phrasal focus will not meet any difficulty working through (25) and (26), yielding interpretations of separate sub-metaphors, the actual implications of “nursery” become very different from those of (24). In (25), “nursery” seems to mean merely “a place of nurse-like people”, whereas (26) may subtly indicate some special administrators-staff, or parents-nurses cooperation instead of the specific “in need-needed” relation implied in (24). It can also be noticed that while in (24) the term “nursery” is rather appropriately chosen, its very appearance can hardly be justified or supported in (25) and (26).

Evidently, a specific “in need-needed” relation in this extended metaphor is vital to its interpretation, but neither Ortony’s model nor the categorisational accounts can identify it in the first place. The reason, again, is that an extended metaphor has to be interpreted as a unity, instead of many separate sub-metaphors with no connection between one another; but operations only at a lexical or phrasal level is not sufficient for treating a long and complex metaphor as a single one.

5 Under an apparent distinction

At this stage, the comparison approach and the categorisation approach confront some common challenges in spite of their seemingly conflicting proposals. Although their interpretation processes appear to be different, the two approaches have not shown significant differences with respect to their explanatory power. Now a reconsideration of the current debate is needed before one can answer how different categorisation is from comparison. Part 5 aims to show that there is no fundamental incompatibility between the comparison process of the feature-matching model, and the categorisation processes proposed by Glucksberg and the standard Relevance Theory.

Rubio-Fernández and her colleagues make an important point that a comparison statement is not fundamentally different from its corresponding categorisation statement, in the way that the categorisation statement entails the comparison statement. If concepts are represented as sets of features, by asserting “X is a Y”, the speaker means that the concept of Y is a subset of the concept of X; whereas by asserting “X is like a Y”, the speaker means that “the size of the intersection between the concept of Y and the concept of X exceeds certain threshold”. The former is always a special case of the latter, which means the categorisation statement always entails the comparison statement (Rubio-Fernández, Geurts & Cummins, 2017: 382).

This claim, however, contradicts directly one of Glucksberg's major arguments that also has strong intuitive support, that is, a literal categorisation statement cannot be paraphrased into a comparison statement. "A dagger is a weapon" is acceptable, but no one says "a dagger is *like* a weapon" (Glucksberg & Haught, 2006). One would expect that if the former truly entails the latter, such a paraphrase should be able to take place. The response from Rubio-Fernández and her colleagues is that a categorisation statement as "a dagger is like a weapon" indeed gives rise to the inference "a dagger is *not* a weapon"; but the inference is a scalar implicature and works in the same way as the inference from "I ate *some* cookies" to "I did not eat *all* the cookies" (Rubio-Fernández, et al., 2017). In other words, there is no semantic base for the rejection of a statement as "a dagger is like a weapon". It is only because the speaker is expected to say no less than what he or she knows, that the hearer interprets "a dagger is like a weapon" as contradictory to "a dagger is a weapon".

If a categorisation assertion is not fundamentally incompatible with its corresponding comparison assertion, should a categorisation process be fundamentally incompatible with a comparison process? The answer, we believe, is also no. Section 5.1 will provide a detailed demonstration on this point.

5.1 *The compatibility of the comparison and categorisation processes*

The interpretive procedures of the standard Relevance Theory and the basic feature-matching mechanism, both represented in feature sets, are compared in the following analysis. A hypothetical statement "X is a Y" is adopted for the sake of convenience.

According to Relevance Theory, a group of properties is activated following the decoding of the vehicle term, which is now represented as a set of features F_Y (Figure 1). The denotation of the term is then broadened and narrowed. Such an operation, if shown on the feature chart (Figure 2), is equivalent to the relevance confirmation of some features in F_Y . The grey area represents the features that remain relevant, and the white area the features that become irrelevant.

At this point it is necessary to emphasize the difference between a representation based on the denotation range and the representation of feature sets we have adopted. Since broadening and narrowing lead to contrasting effects on a denotation range, it is somewhat counterintuitive when neither of them map to the introduction of new features in the current representation. The truth is, the initial activation of features introduces adjustable features once and for all, as the standard paradigm of Relevance Theory does not license a second or third chance of feature activation by which new features can be introduced to the set.

The simple example "Sally is an angel" (Wilson & Carston, 2007: 28) serves to clarify the situation. The decoded word "angel" activates features which apply

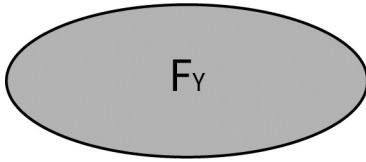


FIGURE 1
A set of features F_Y

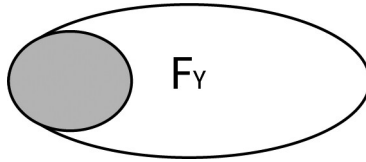


FIGURE 2
Some features in F_Y

to all the angels (e.g. immortal, with wings, etc.). It also activates features applicable only to some angels, including kind, without emotion, and fallen. Contrasting with the word “angel”, the word “Sally” denotes a single person. Features related to Sally are not distinguished with respect to the condition of application: they should all be applicable to Sally.

The aim of lexical adjustment is to recognise features from the concept angel which are also applicable to Sally. The operation of broadening corresponds to the relevance confirmation of features which apply to all the angels as well as Sally. Features applicable to all the angels but not Sally (e.g. immortal, with wings) are no longer seen as relevant, so that items sharing no such features, such as Sally, are allowed to be part of the denotation of the ad hoc concept ANGEL*. The operation of narrowing corresponds to the relevance confirmation of features applicable to some angels as well as Sally (e.g. being kind, patient). As a result, items such as fallen angels and emotionless angels, which do not share such features, are removed from the denotation of ANGEL*. Thus it can be found that through both broadening and narrowing, nothing completely new has been introduced to the concept angel; by things completely new we mean features that were not part of the concept from the beginning, such as “blue”, “likes ice cream” etc.

The final outcome, as shown in Figure 2, is a subset of F_Y , referred to as F_{Y^*} . As the result of a process corresponding to lexical adjustment, the subset F_{Y^*} itself corresponds to the ad hoc concept Y^* in the standard paradigm of Relevance Theory. Now turn to the metaphoric assertion “X is a Y”. Relevance Theory claims that by making such an assertion, what the speaker truly means is “X is a Y^* ”. The categorisational process in metaphoric interpretation is thus to categorise X into the range of the ad hoc concept Y^* .

If we follow the description of the nature of categorisation in Rubio-Fernández et al. (2007), “X is a Y^* ” simply means that F_{Y^*} is a subset of F_X . Represented in the form of feature sets, it should be something similar to Figure 3.

In brief, to make a metaphoric assertion “X is a Y”, following the procedure of the standard Relevance Theory, is to make an assertion that a specific subset of F_Y is also a subset of F_X .

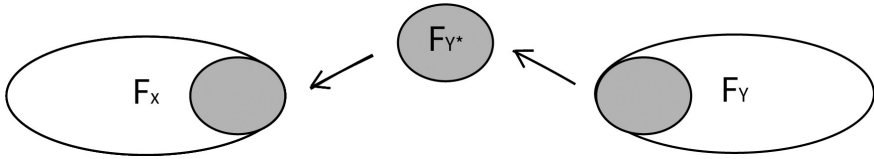


FIGURE 3 F_Y^* as a subset of the concept of F_X

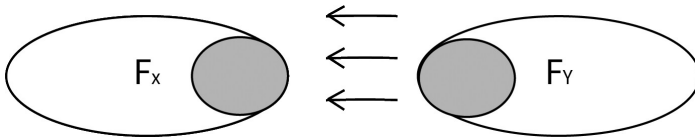


FIGURE 4 Feature-matching Y to X

On the other hand, Ortony's modified feature-matching model interprets the metaphoric assertion "X is a Y" as a process of finding features which are highly salient for concept Y, and much less salient for concept X. The same features are thus matched from the concept Y to the concept X as in Figure 4. In other words, a metaphoric assertion "X is a Y" means a certain number of specific features of F_Y also belong to F_X .

Now it should be clear that the interpretive procedure of the Relevance Theory and that of the feature-matching model are, in fact, very similar in their essence. The most notable difference is that the ad hoc concept in the Relevance Theory account does not have a counterpart in the feature-matching model. During the feature-matching process, features are matched separately; while during the categorisational process, features are transferred in the form of a subset of F_Y . The implications of such a difference will be further discussed in Part 7.

5.2 *Similar interpretive efficacy of the processes*

Given the compatibility of the interpretive processes, it is expected that Ortony's feature-matching model and the categorisational mechanisms should have similar interpretive efficacy. In other words, the categorisation approach should be able to account for no more nor less metaphoric patterns than Ortony's model. Evidence in support of this argument is gathered in this section.

There should not be much dispute on the well discussed metaphoric form "X is a Y", which has been commonly used to demonstrate the interpretive mechanisms of both approaches. Ortony's model has been wrongly believed to be not able to explain the introduction of new properties to the subject (Bowdle & Gentner, 2005; Glucksberg & Keysar, 1990). But this criticism has been shown

to be invalid in part 2, as the process of feature-matching is in fact a process of feature application instead of mere feature matching.

For the cases of complex metaphor, especially those of “whole sentence” metaphor and extended metaphor, neither Ortony’s model nor the categorisation approach gives an adequate account. The situation for metaphoric statements with emergent properties is similar: both approaches have met problems in accounting for such cases.

There is one type of metaphoric expressions, given earlier and replicated here as (27) and (28), which is alleged to be against comparison interpretations due to a lack of corresponding comparison forms (Glucksberg & Haught, 2006; Haught, 2013):

(27) Brown is the new black.

(28) WorldCom will be the next Enron.

It is indeed difficult to imagine how such expressions could be interpreted along the comparison route, because of the presence of the word “new” or “next”. However, the metaphoric nature of such expressions is not without doubts. One thing noticeable is that this metaphoric type is unlikely to be as productive as many other types. For example, it would be absurd to say “his pen is the *new* dagger”, or “the room is the *next* oven”. The form seems to be only applicable under special contexts to some specific pairs of entities, which are, in many cases, denotations of proper nouns. Secondly, and more importantly, although they sometimes appear together with the common “X is a Y” examples, these metaphoric expressions actually share a distinctive “X is *the* Y” form. The difference on the article used, inconspicuous as it may seem, affects their interpretation, as “brown is *a* new black” and “WorldCom will be *a* next Enron” are no more interpretable. Correspondingly, if we dig into the meaning of phrases such as “the new black”, we will find that it has no literal interpretation as a kind of black, nor does “the next Enron” as another Enron company. The fact that the comparison accounts cannot explain these expressions, therefore, is probably because they are not typical examples of metaphor. What the sentence “brown is the new black” actually means is brown is a new popular colour. These expressions are actually closer to metonymy than metaphor given that the phrase “the new black” refers to the concept of a new popular color.

Another group of examples in favour of the categorisational accounts is described by Glucksberg and Haught as “topic-applicable” metaphor:

(29) My lawyer is a well-paid shark.

(30) Some ideas are theoretical diamonds. (Glucksberg & Haught, 2006: 368)

In these examples, the vehicle is always modified by an adjective literally applicable only to the topic. The result of the modification is that the expressions cannot be readily interpreted in comparison forms such as “my lawyer is *like* a well-paid shark”, or “some ideas are *like* theoretical diamonds” (Gargani, 2016; Glucksberg & Haught, 2006; Haught, 2013). Empirical results also show that expressions are indeed processed more quickly in categorisational form than in comparison form (Glucksberg & Haught, 2006; Haught, 2013).

But when the adjective insertion technique is applied to truly novel or complex metaphors, the yielded expressions are odd even in the categorisational form (Carston & Wearing, 2011). For example:

(31) My boyfriend is a needy backpack.

(32) His life was an [anguished [skiff with no oar, caught on the tide]]. (Carston & Wearing, 2011: 301–302).

(33) Metropolises are crowded sponges.

It can be argued that the examples used by Glucksberg & Haught are all based on rather conventional vehicles and in the simple “X is a Y” form (Carston & Wearing, 2011); and conventional metaphors are likely to be processed in a way different from typical metaphoric expressions (Bowdle & Gentner, 2005). If this is true, the presence of “topic-applicable” metaphor will not be as fatal to the comparison approach as they have been argued to be.

In conclusion, there has not yet been concrete evidence that the categorisational approach has a better explanatory power than Ortony’s feature-matching model. The essential similarity of these interpretive processes, in addition, predicts there is unlikely to be any. It will be further shown that the feature-matching model only represents a part of the whole comparison mechanism; and both Ortony’s model and the categorisational accounts realise the processing of only a specific comparison type.

6 An improved comparison approach

Traditional comparison accounts, represented by Ortony's feature-matching model, do not rely on any special "metaphoric senses" in metaphoric interpretations, even though their interpretive mechanisms may inevitably focus on words or phrases. Since the "metaphoric sense" hypothesis has never been included in the basis of the comparison approach, it can be modified to overcome the limitations of interpretations based on words and phrases. Proposals on improving the comparison approach have been raised from both a psychological perspective and a linguistic perspective.

6.1 *From a psychological perspective*

Analogy has always been regarded as highly relevant to metaphor. It represents a similarity between relations instead of objects (Ortony, 1979c). Analogy's position in the family of similarities is elaborated by Gentner. She has proposed three classes of similarities on a continuum. The two extremes are mere-appearance similarity, representing the overlapping of properties of objects, and analogy, representing the overlapping of relations of objects. Literal similarity is the combination of mere-appearance similarity and analogy (Gentner, 1983, Gentner, 1988; Gentner & Medina, 1998). Corresponding to the similarities are three classes of analysable metaphor: attributional, relational, and double (Gentner, 1988).

The three classes of analysable metaphors are processed in accordance with the structure-mapping theory. The first stage of this theory creates a "maximal structurally consistent match" (Bowdle & Gentner, 2005: 196) between the two entities being compared. This process follows the restrictions of *one-to-one mapping* and *parallel connectivity*. One-to-one mapping requires that one element of an entity can be mapped to no more than one element of the other entity. Parallel connectivity requires that if two relational structures are aligned, the arguments of these relational structures must also be aligned (Bowdle & Gentner, 2005; Gentner & Markman, 1997). Another rule guiding the mapping process is *systematicity*: alignments between more structured systems are preferred to alignments between less structured elements (Gentner, 1983; Gentner, et al., 1987; Bowdle & Gentner, 2005; Gentner & Markman, 1997). For example, the alignment between two structurally-similar situations is preferred over the alignment between individual features of these two situations.

Following the alignment stage is the stage of projection, in which further elements connected to the aligned system are projected from one entity to the other. The projection will introduce new information from the base to the target (Bowdle & Gentner, 2005: 196).

With this theory, examples such as “this company is a nursery: all the clients are infants; and all the staff are nurses” becomes accountable by matching the specific relation from the infants/nurses pair to the clients/staff pair. Under the aligned structure, further properties of infants will be projected to the clients and those of nurses will be projected to the staff. For example, the clients will be expected to be ignorant of their own business; and the staff will probably be thought as “very patient” etc.

The structure-mapping theory is considered to be “an extension of the standard comparison theories” (Bowdle & Gentner, 2005: 197) instead of a denial of the previous accounts. It is more powerful than the feature-matching model in that it expands the explanatory range of the comparison approach to cover not only mere attributional similarities, but relational similarities as well.

6.2 *From a linguistic perspective*

While Gentner focuses mainly on the psychological process of metaphoric interpretations, White provides a theory to analyse the linguistic structures of metaphoric expressions. He believes that metaphor is a “linguistic hybrid”, in which two different situations that may each be represented by a sentence are blended into a single sentence (White, 1996: 115). For example, the nursery example is in fact a conflation of two situations. One situation is about clients in need of being served by the staff in a company; the other is about infants in need of being catered by the nurses in a nursery. By merging these two situations into one sentence, metaphor leads us to “see the first situation ... in terms of the second situation” (White, 1996: 108).

In explicating how this is done, White proposes a division of a primary vocabulary and a secondary vocabulary in metaphoric expressions. Words of the primary vocabulary contribute to the straight-forward description of an actual situation; while words of the secondary vocabulary constitute a situation that is metaphorically compared to the primary situation. In a metaphoric expression, some words may belong to both vocabularies. A primary sentence is formed by viewing the words of the secondary vocabulary as variables; a secondary sentence is formed the other way round (White, 1996: 17). (35) and (36) show open versions of the primary and the secondary sentences of the nursery example.

(35) This company is a *x*: all the clients are *y*; and all the staff are *z*.

(36) *r* is a nursery: *s* are infants; and *t* are nurses.

The values of the variables can range within certain domains. Here the appropriate substitution for *y*, for instance, will be any group of people in urgent need.

In this way, the original expression is considered by White as a “Duck-rabbit”, which describes two different situations at the same time (White, 1996: 115). The reader or hearer understands such a sentence by switching between the two readings of it.

Although White’s account is from a different perspective to that of Gentner’s theory, White himself regards it as equivalent to the analogical explanations, as he writes “we see the metaphoric predication ... as resting on the analogy ... At the linguistic level, this is tantamount to seeing the metaphoric predication as the result of conflating the primary and secondary sentences” (White, 1996: 245). The next section will show that following either account, the comparison approach will be able to overcome the issues discussed in Part 4.

6.3 *Improved explanatory power of the comparison Approach*

The reason why both Gentner’s structure-mapping theory and White’s account are more advantageous than the feature-matching model is that they not only avoid the “metaphoric senses” hypothesis as part of their theoretical basis, but also provide the means to explain metaphoric expressions beyond the lexical or phrasal level. The latter is the key to interpret complex metaphors; and, as will soon be shown, it also offers a possible solution to the emergent property issue. This is what the traditional accounts seem to lack.

In explaining metaphor in forms more complex than “X is a Y”, typified by the “whole sentence” metaphor and the extended metaphor, a comparison is made between two parallel situations following either the structure-mapping theory or White’s account. Both accounts have been shown to be able to explain the interdependence of the sub-metaphors in the nursery example, which is discussed as a case of extended metaphor. Now we use (21), replicated here as (37), to show how these two accounts may deal with the “whole sentence” metaphor.

(37) A caged bird will forget how to fly.

In the context suggesting the situation of an over-disciplined child, the structure-mapping theory firstly maps concepts in the bird’s situation to those of the child’s situation. Mappings will be constructed between the bird and the child, cage and restriction, etc. A causal relation is indicated in the bird’s situation, in which being caged is the reason for the bird to forget how to fly. This relation will also be mapped to the child’s situation. Further elements connected to the causal relation will be projected to the child’s case, leading to an inference that

as a result of being over-disciplined, the child will lose some important abilities (e.g. creativity, self-care abilities etc.).

From White's view, (37) is a sentence with every word belonging to the secondary vocabulary. It is metaphoric in a way that the sentence describes only the metaphoric situation, and is different from the case in which every word is from the primary vocabulary, when no metaphor is retained (White, 1996: 79). As the sentence is not treated differently from other metaphoric cases, the child's situation, which is obtained from the context, is to be viewed as if it were the metaphoric situation of the bird.

The emergent property issue seems to be separate from the issues of interpretations based on words and phrases, but the solution given by Gentner and White appear to be more sufficient than the feature-matching model and the categorisational accounts. It is claimed by Asch that for words such as "cold", "hard", "sweet" which can be used across domains, their physical senses and psychological senses share particular schemas of interaction (Asch, 1958). For example, the experience of physically interacting with a knife can be similar to that of interacting with some psychologically harmful thing, such as someone's pen. This process seems equivalent to a particular structure-mapping case. In the terminology of the structure-mapping theory, an analogical mapping between a physical situation (e.g. a knife hurting people physically) and a psychological situation (e.g. someone's pen hurting people emotionally) is created to interpret these cases. The similarity between emergent properties and their original counterparts is, therefore, explained as a regular relational similarity, instead of a special attributional similarity which has to be recursively derived. The problems accompanying any hypothetical recursive processes, which are likely solutions from the feature-matching model and the categorisational accounts, are thus avoided.

If White's account were the "tantamount of analogy at the linguistic level", it should be able to perform similarly on the emergent property issue as the structure-mapping theory does. This is found to be true. The original sentence can be seen as a conflation of two sentences "his pen is a x" and the secondary sentence "y is a knife", where x represents something that hurts people emotionally, and y something that hurts people physically. The effect is almost the same as interpreting the sentence with analogy: his pen is to human emotion as a knife is to human bodies.

7 Could the categorisation approach be improved?

Part 6 shows that the explanatory range of the comparison approach has been expanded with Gentner and White's accounts. With the introduction of relational similarity, it is now possible for the comparison approach to make comparisons between situations, in which features are aligned under the alignments of relational structures. Given that the entities under comparison are no longer limited to the denotations of words and phrases, the comparison approach can now account for metaphoric cases which are not explainable for accounts with a lexical or phrasal focus.

At this point, one may expect a similar improvement for the categorisation approach. This part will show that it is difficult to, on the one hand, update the categorisation approach in the way the comparison approach is updated, and on the other hand, merge elements from other mechanisms with the categorisation approach so as to expand the general explanatory range.

7.1 *An attempt to update the approach itself*

It is known that in Glucksberg's account, the abstract metaphoric category is always hierarchically higher than the elements categorised under it. The concept of the category is distinguished from the concepts of categorised elements as they are at different vertical levels (Glucksberg & Keysar, 1990). Similarly, in Relevance Theory, an ad hoc concept is constructed and distinguished from the concepts of the original vehicle and the topic. Contrasting with the categorisation approach, the comparison approach does not assume that any extra entity needs to be identified apart from the two parallel entities that are compared.

Nevertheless, the explanatory power of the comparison approach is not lower than that of the categorisation approach in acknowledged metaphoric cases. Metaphors that can be explained by the categorisation approach can also be explained by the comparison approach; in addition, the comparison approach is able to deal with several types of complex metaphors and metaphors with emergent properties which have not yet been adequately explained by the categorisation approach. It is thus doubtful how a proposed abstract category might help with metaphoric interpretation.

In fact, there has been a converse claim that the requirement of identifying an abstract entity may undermine the explanatory power of an account. This is the criticism of White against special "metaphoric senses" of words or phrases, which claims that the categorisation approach is challenged by the issues discussed in part 4 because it requires metaphoric concepts of words and phrases to be developed in metaphoric interpretation. If the standard paradigm of Glucksberg's account or Relevance Theory is to be followed, these special

concepts will function as metaphoric senses of words or phrases. The construction of these metaphoric concepts cannot be avoided as these concepts are the key to the metaphoric interpretations of categorisational accounts; therefore, the only way for the categorisation approach to overcome problems related to “metaphoric senses” would be to have its proposed metaphoric concepts modified, so that they could be metaphoric categories not only of words and phrases, but also of sentences and situations. The categorisation approach would then be able to deal with entities larger than lexical or phrasal items in metaphoric interpretations.

However, it will be shown that even if there were metaphoric categories of things more complex than lexical or phrasal concepts, they would be the result instead of the precondition of metaphoric comprehension. A superordinate category of lexical items has been treated as a set of their common features; analogously, a superordinate category of situations is likely to correspond to their common relational structure. An abundance of experimental evidence has shown that to extract a schematic relational structure from one situation and apply it to another situation is very cognitively-demanding. The process is so difficult that it has to be firstly facilitated by making effective comparison between situations sharing the relational structure as well as other surface properties (Gentner & Medina, 1998; Holyoak, 2012) or by introducing a linguistic label for the relational structure (Gentner, 2003; Gentner & Medina, 1998). Linguistic labels for metaphoric categories are not available in novel cases of metaphor. Therefore, the only possible way to derive such a metaphoric category is to understand how the two situations are similar by making careful comparisons of the situations. In other words, one needs to comprehend the metaphor itself before one could interpret it along the categorisation approach.

Another concern is on the economy of deriving complex metaphoric categories. If complex metaphoric categories worked in the same way as ad hoc concepts, which are supposed to be “adjusted to the precise circumstances of their use” (Sperber & Wilson, 2008:102), one would have to derive new complex metaphoric categories for every single complex metaphor. Afterwards these complex metaphoric categories, whose derivation had taken immense cognitive effort, would be discarded without giving rise to any further cognitive effect. Even if the derivation of such metaphoric categories were possible, it would be cognitively uneconomic for them to work in the way the categorisation approach has proposed for ad hoc concepts.

Based on these points, the proposed metaphoric categories are not likely to become categories for sentences and situations. The categorisation approach thus cannot be updated on its own.

7.2 *An attempt to merge two mechanisms into one*

A second way to improve the categorisation approach is to combine elements from other approaches with it. It follows the central idea that the problems cannot be solved by the categorisation approach alone may be solved if it is assisted by some non-categorisational processes.

One hypothesis is that, since most examples accountable by the categorisation approach are in the “X is a Y” form, the appropriate interpretive mechanism for it may be different from that for more complex cases. This is reflected in Carston’s proposal of the double-mechanism interpretation of metaphor. The first mechanism follows the standard Relevance Theory procedure, while the second one makes use of the literal meaning of sentences instead of metaphoric concepts of words. When the cognitive load for constructing an ad hoc concept exceeds a threshold, the hearer will switch from the first mechanism to the second (Carston, 2010; Carston & Wearing, 2011).

Another way, suggested by Wearing, is to incorporate analogy into the standard Relevance Theory account. Differing from the comparison approach, the role of analogy here is only a guide to properties which are important to the metaphoric interpretation but cannot be accessed following the standard Relevance Theory procedure. A typical case of this is emergent properties. For example, the feature of being physically harmful cannot be identified as relevant to the interpretation of “his pen is a knife” as this feature is not directly shared by a pen. Without the activation of this feature, the superordinate feature of being harmful cannot be derived and is thus unavailable to the ad hoc concept construction. This problem can nevertheless be solved with analogy. An analogical alignment between the situation of a pen hurting people’s emotion and that of a knife hurting people’s bodies makes the shared feature of being harmful recognisable. The feature will thus contribute to the following ad hoc concept construction (Wearing, 2014).

While merging elements from other approaches does help the categorisation approach to improve its explanatory power, these accounts are potentially problematic. Especially, if two interpretive routes are present, one needs to make a choice between them. The turning point in Carston’s proposal seems to be a certain level of cognitive load, but, as pointed out by White, some extended metaphors can be chosen to be interpreted as many small metaphors or a unitary complex metaphor (White, 1996). Their interpretation does not automatically follow one mechanism when the other one fails. The nursery example is one such case. We interpret it as a unity instead of many simple sub-metaphors; but our choice of the second interpretive mechanism is not because the case cannot be locally interpreted through the first mechanism.

A similar problem about choosing the mechanism would apply to Wearing's account if the analogical process was only present in the interpretation of some but not all metaphoric cases. If the analogical process was, however, a default process in interpreting all metaphoric cases, the interpretive paradigm of Relevance Theory would become more complex than had been initially proposed. Especially, it would assume that one needs to undergo unnecessary searches for analogical alignments even in interpreting the simplest "X is a Y" metaphor. This is likely to conflict with the experimental findings in support of the claims that metaphoric interpretations of at least the simple "X is a Y" metaphors are no slower than the processing of literal language (Glucksberg, 2001; Sperber & Wilson, 2008).

8 Conclusion

By comparing the accounts from both the comparison approach and the categorisation approach, we have shown that the comparison approach has a better explanatory power than the categorisation approach, in that the former is not limited to interpretations based on words or phrases, whereas the latter can only account for metaphoric cases at a lexical or phrasal level.

It has been shown that, when the comparison approach only conducts comparisons between lexical items, its interpretive effect is close to the interpretive effect of the categorisation approach. Both of them realise the transference of features, with the difference being whether the features form an independent metaphoric concept during the transference. After the comparison approach is improved to include comparisons between situations, in which features are aligned under the alignments of relational structures, the explanatory power of the comparison approach becomes better than the categorisation approach. Similar improvements can hardly be made for the categorisation approach as the metaphoric concepts it proposes can only be groups of features shared by lexical or phrasal concepts, but not relational structures shared by situations. Neither is the way of merging other processes to the categorisation approach so as to improve its general explanatory power a convenient solution. As a result, the categorisation approach cannot account for cases such as the "whole sentence" metaphors, extended metaphors and metaphors with emergent properties. The cases accountable by the categorisation approach are therefore only a subset of cases accountable by the comparison approach.

The categorisation approach cannot include entities larger than words and phrases into its interpretations as a result of its reliance on metaphoric cate-

gories or concepts. Since the comparison approach has not based its interpretations on any type of “metaphoric senses”, it is not constrained in the way the categorisation approach is constrained. This difference has made the comparison approach more advantageous than the categorisation approach in terms of metaphoric interpretation.

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